CLAIMS

1   A system for performing transform operations comprising:

a first conversion block for receiving a pixel sample and for converting said pixel sample from a gamma space to a linear space;

5   a transform function block coupled to said first conversion block for transforming said pixel sample into an output pixel sample;

a second conversion block coupled to said transform function block for converting said output pixel sample from said linear space to said gamma space.

10   2.   The system of claim 1 wherein said first conversion block comprises a degamma filter.

3.   The system of claim 2 wherein said degamma filter implements a function x^{gamma} where x is the sample value.

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4.   The system of claim 3 wherein said degamma filter is implemented using a lookup table.

5.   The system of claim 4 wherein the number of bits of output of said degamma 20   filter is greater than the number of bits of input.

6.   The system of claim 1 wherein said second conversion block is a gamma correction filter.

7. The system of claim 6 wherein said gamma correction filter implements a function $x^{1/gamma}$ where x is the output pixel value.

8. The system of claim 7 wherein said gamma correction filter is implemented using

5 a lookup table.

9. The system of claim 8 wherein said gamma correction filter provides an output of fewer bits than the input to said gamma correction filter.

10 10. The system of claim 1 wherein said transform function block is an antialiasing filter.

11. The system of claim 10 wherein said antialiasing filter is implemented as a sum and divide operation.

15 12. The system of claim 1 wherein said transform function block executes a blend function.

13. The system of claim 1 further including a plurality of first conversion blocks for receiving a plurality of pixel samples and for converting said plurality of pixel samples from

20 gamma space to linear space.

14. A method for performing transform operations comprising:

receiving a pixel sample;

converting said pixel sample from a gamma space to a linear space;

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transforming said pixel sample into an output pixel sample;

converting said output pixel sample from said linear space to said gamma space.

15.   The method of claim 14 wherein said step of converting said pixel sample uses a degamma filter.

16.   The method of claim 15 wherein said degamma filter implements a function x^{gamma} where x is the sample value.

17.   The method of claim 16 wherein said degamma filter is implemented using a lookup table.

18.   The method of claim 17 wherein the number of bits of output of said degamma filter is greater than the number of bits of input.

19.   The method of claim 14 wherein said step of converting said output pixel sample uses a gamma correction filter.

20.   The method of claim 19 wherein said gamma correction filter implements a function $x^{1/gamma}$ where x is the output pixel value.

21.   The method of claim 20 wherein said gamma correction filter is implemented using a lookup table.

22.   The method of claim 21 wherein said gamma correction filter provides an output of fewer bits than the input to said gamma correction filter.

23.   The method of claim 14 wherein said step of transforming uses an antialiasing

5   filter.

24.   The method of claim 23 wherein said antialiasing filter is implemented as a sum and divide operation.

10   25.   The method of claim 14 wherein said step of transforming executes a blend function.